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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D 21 MAY 2004

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Applicant's or agent's file reference 30A-88166		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 02/03802	International filing date (day/month/year) 05.04.2002	Priority date (day/month/year) 05.04.2002	
International Patent Classification (IPC) or both national classification and IPC H04L29/06, H04L29/06			
Applicant TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) et al			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 3 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 28.10.2003		Date of completion of this report 19.05.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Huber, O Telephone No. +49 89 2399-8967	



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 02/03802**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-25 as originally filed

Claims, Numbers

2-13, 15-18, 21-24 as originally filed
1, 14, 19, 20 received on 08.01.2004 with letter of 08.01.2004

Drawings, Sheets

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-24
	No: Claims	
Inventive step (IS)	Yes: Claims	1-24
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-24
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1) Closest Prior Art and its Problem

As defined in detail in Claims 1 and 14, the invention relates to a method of delaying an object transfer from a first via an intermediate to a second component .

The opening part of Claim 14 is based on the disclosure of the closest prior art document D1 = US-A-5 987 466 (GREER TIMOTHY DAN ET AL) 16 November 1999 not acknowledged in the description.

The web page presentation system described in D1 is used for controlling the complexity levels of web pages, by having priorities on different elements of a web page and deferring their presentation in the order of the priorities.

The problem of the system in D1 is, that there is no feedback to the second component (client) about the delay.

2) Object of the Invention

The object of the present invention is to provide a method which allows the second component (client) to react better on loading progress of web pages.

3) Solution

The solution is characterised in that an attribute or priority is assigned to a requested object. The requested object is delayed **by the intermediate component** dependent on the attribute or priority before being sent to the second component (client).

4) Conclusion and General Remarks

The solution to this problem proposed in Claims 1 and 14 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The concept of the object transfer delay mechanism, according to Claims 1 and 14, and the corresponding intermediate component (Claims 10 and 20) are not disclosed

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in or rendered obvious by the other documents cited in the International Search Report. None of the documents suggests the that the 'intermediate component' actively delays objects.

In D2 = EP-A-0 992 922 (IBM), a transcoding proxy is disclosed which tries to decrease the delay of a transfer of a web page by transcoding the image files to lower resolutions.

Document D3 = WO 98 43177 A (INTEL CORP) shows another transcoding proxy which is able to privilege certain users to a VIP treatment, meaning a better throughput than other users.

Document D4 = US-A-6 154 769 (ROKICKI) is concerned by scheduling server requests to decrease response time.

Document D5 = US-A-5 778 372 (CORDELL) mentions the fact of requesting images dependent on their priority.

In D6 = WO 01 90912 A (QMGN INC) a download enhancer in the client is scheduling requests according to user preferences.

Document D7 = US-B-6 343 0851 (ALAM BILAL ET AL) adapts the handling of requests dependent on the measured bandwidth and implements a priority handling.

Claims 1-24 are novel, inventive and industrially applicable.

Annex

- 5 1. A method of controlling in a communications network (10) an object transfer from a first component (20) via an intermediate component (30) to a second component (40) which is remote from the first component (20), wherein the object transfer is based on a plurality of object requests relating to objects referred to in one or more codes to be processed by the second (40) or another component of the communications network (10), the intermediate component performing the steps of:

- 10
- sending an object request to the first component (20);
 - receiving the requested object from the first component (20);
 - **assessing and/or updating a priority of the requested object**, wherein an initial priority has been assigned to the requested object on the basis of an analysis of at least one of the object request and the code that refers to the requested object; and
 - **in dependence of the priority of the requested object, delaying the requested object or forwarding the requested object to the second component (40).**
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- 20

- 25 14. A method of delaying in a communications network (10) an object transfer from a first component (20) via an intermediate component (30) to a second component (40) which is remote from the first component (20), wherein the object transfer is based on a plurality of object requests relating to objects referred to in one or more codes to be processed by the second (40) or another component of the communications network, the intermediate component (30) performing the steps of:

- 30
- **assigning a specific attribute to an object which is to be delayed;**

- 2 -

- informing the second component (40) about the attribute;
- receiving a reference to the attribute from the second component (40); and
- **upon receipt of the reference to the attribute, sending the delayed object to which the attribute has been assigned to the second component (40) or further delaying the delayed object.**

19. An intermediate component (30) for controlling in a communications network (10) an object transfer from a first component (20) via the intermediate component (30) to a second component (40) which is remote from the first component (20), wherein the object transfer is based on a plurality of object requests relating to objects referred to in one or more codes to be processed by the second or another component of the communications network, the intermediate component (30) comprising a communications interface (32) for sending an object request to the first component (20) and for receiving the requested object from the first component (20), **a processing unit (34) for assessing and/or updating a priority of the requested object**, wherein an initial priority has been assigned to the requested object on the basis of an analysis of at least one of the object request and the code that refers to the requested object, and **wherein the processing unit (34) in dependence of the priority of the requested object delays the requested object or controls the communications interface (32) to forward the requested object to the second component (40).**

20. An intermediate component (30) for delaying in a communications network (10) an object transfer from a first component (20) via the intermediate component (30) to a second component (10) which is remote from the first component (20), wherein the object transfer is based on

a plurality of object requests relating to objects referred to in one or more codes to be processed by the second or another component of the communication network, the intermediate component (30) comprising a processing unit (34) for **assigning a specific attribute to an object which is to be delayed and a communications interface** (32) for informing the second component (40) about the attribute, for receiving a reference to the attribute from the second component (40) and, **upon receipt of the reference to the attribute, for sending the delayed object to which the attribute has been assigned to the second component (40) or further delaying the delayed object.**